PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Applicant's or agent's file reference see form PCT/ISA/220	Date of mailing *(day/month/year)* see form PCT/ISA/210 (second sheet) **FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/EP2005/000475	19.01.2005	31.01.2004

International Patent Classification (IPC) or both national classification and IPC
C07D487/04, A61K31/519

Applicant
BAYER HEALTHCARE AG

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

PCT II 19 H0: 31-08-2005 Limits not bp

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notifed the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:	Authorized Officer
European Patent Office - Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840	Frelon, D Telephone No. +49 30 25901-312

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

   ☐ in written format

   ☐ in computer readable form

   c. time of filing/furnishing:

   ☐ contained in the international application as filed.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/EP2005/000475

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 13 with regard to industrial applicability

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination *(specify)*:

☐ the description, claims or drawings *(indicate particular elements below)* or said claims Nos. are so unclear that no meaningful opinion could be formed *(specify)*:

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the whole application or for said claims Nos. 13 with regard industrial applicability

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex *C of the Administrative Instructions in that*:

the written form	☐	has not been furnished
	☐	does not comply with the standard
the computer readable form	☐	has not been furnished
	☐	does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-13
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-13
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-12
	No:	Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43*bis*.1 and 70.10)

and / or

2. Non-written disclosures (Rules 43*bis*.1 and 70.9)

see form 210

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (SEPARATE SHEET)

International application No.
PCT/EP2005/000475

Re Items I and II

The intermediate documents D4 and D5 (see cited documents, below) are relevant for the purposes of Rules 33.1 c, 64.3 and 70.10 PCT (see section VI, certain documents), but since the priority documents are not available at the time of establishing the written opinion, they are not taken into account. It is based on the assumption that all claims enjoy priority rights from the filing date of the priority document(s). If it later turns out that this assumption is not correct, the intermediate document in the International Search Report (ISR) could become relevant in order to assess whether the claims satisfy the criteria set forth in Art. 33(1) PCT.
If the priority date is not valid for the complete claimed subject-matter, this document may become relevant prior art in a possible regional/national phase.

Re Item III

Claim 13 is directed to methods for treatment of the human or animal body by surgery or therapy. It relates to subject-matter considered by the ISA to be covered by the provisions of Rule 67.1(iv) PCT.

For the assessment of the present claim 13 on the question whether its subject-matter is industrially applicable, no unified criteria exist in the PCT Contracting States.
Consequently, no opinion will be formulated with respect to the industrial applicability of the subject-matter of this claim (Art. 34(4) (a)(i) PCT). The patentability can also be dependent upon the formulation of the claim. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but may allow, however, claims to a known compound for first use in medical treament and the use of such a compound for the manufacture of a medicament for a new medical treatment.

Under the terms of Rule 39.1(iv) PCT, the ISA was not required to carry out a search of such a claim, but as indicated in the ISR, the search was carried out and based on the alleged effects of the compounds. Similarly, the IPEA (which is the ISA) is not required to carry out an International preliminary examination of such a claim, but as for the ISR, the

IPER will be based on the alleged effects of the compounds (Rule 67.1 (iv) PCT).

Re Item V

1. Cited documents

D1: WO 01/83485
D2: YAMAMOTO, NORIYUKI ET AL: JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, vol. 306, no. 3, 2003, pages 1174-1181
D3: SUGIMOTO H ET AL: JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, AMERICAN SOCIETY FOR PHARMACOLOGY AND, US, vol. 305, no. 1, 2003, pages 347-352
D4: EP 1 471 057 (intermediate document)
D5: WO 2004/058164 (intermediate document)

2. Novelty

In view of the available prior art, the presently claimed compounds are novel.

3. Inventive step

3.1 The problem underlying the present application is to provide imidazopyrimidinylacetic acid derivatives which are useful in the treatment of allergic diseases, eosinophil-related diseases, basophil-related diseases and inflammatory diseases (pages 1 and 35-36).

3.2 D1 describes antiallergic compounds. D2 describes antiinflammatory agents. D3 relates to Ramatroban which is an antagonist of CRTH2. In each case, the structures appear relatively far remote from the structure of the presently claimed compounds. It seems therefore that a skilled person could not have derived them in an obvious manner without any inventive effort needed to make and investigate major structural amendments.

Re Item VI

Certain published documents

Application No Patent No	Publication date *(day/month/year)*	Filing date *(day/month/year)*	Priority date *(valid claim)* *(day/month/year)*
EP 1 471 057	27.10.2004	25.04.2003	-
WO 2004/058164	15.07.2004	19.12.2003	20.12.2002

Re Item VIII

1. Since examples are, by definition, illustrative of the invention, they normally should not serve any limiting purpose. Any expression like the examples "should by no means be construed as defining the metes and bounds of the present invention" (page 34) is objectionable.

The insertion of such sentences would suggest that the subject-matter as presently disclosed does not cover properly the claimed scope. Any expression which can be interpreted as an unjustified extension of the claimed scope should be objected. The specification should be clear and sufficient by itself. A precautionary measure on the limits of the scope is therefore superfluous and even misleading as it finally prevents a proper definition of the invention and opens the way to speculations (of skilled persons) about the very inventive subject-matter. Consequently any element against clarity has to be deleted/has been cancelled.

2. It is additionally noted that the terms and/or expressions like "and others", "and the like" used in these definitions are unspecific. They cannot serve as a support for the invention and therefore should be deleted.

Terms and/or passages which are not essential to the definition and the understanding of the invention as claimed are superfluous and therefore do not need to appear and to be defined in the description (see, for instance, "cycloalkylamino", "cycloalkylcarbonyl", "arylamino", "arylcarbonyl", etc). On the contrary, undefined terms like "aryl" or "heteroaryl"

are not acceptable as they do not allow to circonscribe a correct scope for which a protection can be granted. They must be thus specified on the basis of appropriate definitions which can be found in the description.